



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/265,601	03/10/99	CHOI	W 03364.P010

IM22/1206
BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES CA 90025

EXAMINER

DOVE, T

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/265,601

Applicant(s)
Choi et al.

Examiner
Tracy Dove

Group Art Unit
1745



☒ Responsive to communication(s) filed on 25 Sep 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-8 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-8 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

This Office Action is in response to the communication filed on 9/25/00. Applicant's arguments have been considered, but are moot in view of the new grounds of rejection. Claims 1-8 remain rejected in view of the prior art and are further rejected under 35 U.S.C. 112. This Action is made **NON-FINAL**.

Specification

The disclosure is objected to because of the following informalities: on page 5, line 24

✓ “tetrafydrofuran” should be “tetrahydrofuran”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1 and 3 contain the limitation that the carbon material has an intensity ratio of less than 0.2. However, the specification does not describe how the intensity ratio was obtained. Intensity

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ratios may be measured using different methods and it is not clear how the intensity ratio of the present invention was obtained. The specification does not indicate a wavelength.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "graphite-like" in claims 1-4 is a relative term which renders the claims indefinite. The term "graphite-like" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The carbon material must be a graphite material because the last claimed step of preparing the carbon material is "graphitizing the pulverized pitch".

The limitation of an intensity ratio less than 0.2 in claims 1 and 3 is relative and renders the claims indefinite. The limitation of an intensity ratio less than 0.2 is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. See argument above.

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To the best that the claims are understood in view of the 35 U.S.C. 112 rejections above, please note the following prior art rejections.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sonobe et al., US 5,721,071 "Sonobe".

See Office Action of 6/21/00 for the reasons for rejection.

Claims 1-4 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by and alternatively unpatentable over Kubota et al., US 6,139,990 "Kubota".

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Kubota teaches a graphite carbon material with an intensity ratio less than 0.04. See Figure 5. The graphite material is used as an electrode material in lithium-ion secondary cells. See col. 6, lin 5-10. Thus the claims are anticipated.

Kubota does not explicitly teach the claimed method for preparing the graphite carbon material.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because irrespective of how the graphite material for an electrode is made, the products are the same. Thus, whether the graphite carbon material is formed by the method of the instant invention or any other method of manufacturing the negative active material is used, the active material, as an end result, is the same. Furthermore, the courts have held that when similar products are produced, the product-by-process limitations are obvious. In re Brown 173 USPQ 685, In re Fessman 180 USPQ 324.

Claims 1-8 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by and alternatively unpatentable over Nagamine et al., US 5,932,373 "Nagamine".

Nagamine teaches a material for a negative electrode and a process for preparing the material. An organic compound is first carbonized at a temperature of 300°C to 700°C in a gaseous stream containing an inert gas (carbonization process). Then the carbide is heated to a temperature of 900°C to 1500°C (calcination process). The calcined product is further heat treated at a temperature of 2000°C or higher (graphitization process to obtain a graphite material.

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The formation of a powder (pulverization process) may be carried out after any of the aforementioned processes. See col. 4, lin 15-31. The pulverization process is incorporated between the carbonization and graphitization processes (col. 5, lin 45-56). Typical organic compounds usable as a starting material include pitch such as coal tar. The starting material may also include quinoline. See col. 5, lin 53-col. 6, lin 19. Thus the claims are anticipated

Nagamine does not explicitly state the intensity ratio is less than 0.2.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because if two carbon compounds are made from the same material using the same process, the carbon compounds must have the same properties. Nagamine and the instant invention teach the same method for preparing the carbon material. Therefore, the intensity ratio values are inherently the same. Carbon materials made from the same materials by the same processes inherently have the same properties.

Regarding the process limitations of claims 1 and 3, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because irrespective of how the negative active material is made, the products are the same. Thus, whether the carbon material is formed by the method of the instant invention or any other method of manufacturing the negative active material is used, the active material, as an end result, is the same. Furthermore, the courts have held that when similar products are produced, the product-by-process limitations are obvious. In re Brown 173 USPQ 685, In re Fessman 180 USPQ 324.

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Claims 1-8 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by and alternatively unpatentable over Hayashi et al., US 5,906,900 "Hayashi".

Hayashi teaches an electrode material for a non-aqueous secondary battery having a composite carbonaceous material in which to the surface of a graphite material is attached a carbonized material. See abstract. The carbonaceous material, may be coal tar pitch (col. 3, lin 55), is mixed with an organic substance and a solvent to form a mixture. The solvent may be toluene or quinoline. See col. 5, lin 9-29. The mixture is heated at the boiling point of the solvent or higher or 50°C to lower than 600°C while stirring to obtain an intermediate. The intermediate is heated at 600°C or higher, preferably 2500°C or lower under inert gas atmosphere to obtain a carbonized substance. The carbon substance is subjected to a powdering process (pulverizing). See col. 6, lin 1-8. Thus the claims are anticipated.

Hayashi does not have a specific teaching for an intensity ratio of less than 0.2.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because if two carbon compounds are made from the same material using the same process, the carbon compounds must have the same properties. Hayashi and the instant invention teach the same method for preparing the carbon material. Therefore, the intensity ratio values are inherently the same. Carbon materials made from the same materials by the same processes inherently have the same properties.

Regarding the process limitations of claims 1 and 3, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because

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irrespective of how the negative active material is made, the products are the same. Thus, whether the graphite-like carbon material is formed by the method of the instant invention or any other method of manufacturing the negative active material is used, the active material, as an end result, is the same. Furthermore, the courts have held that when similar products are produced, the product-by-process limitations are obvious. In re Brown 173 USPQ 685, In re Fessman 180 USPQ 324.

Response to Arguments

Applicant's arguments with respect to Suzuki have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to Sonobe have been fully considered but they are not persuasive. Applicant argues Sonobe “neither teaches nor suggests dissolving a coal tar pitch or a petroleum pitch in an organic solvent”.

Sonobe teaches the addition of quinoline to petroleum pitch or coal pitch in col. 2, lin 17-30. Please note claim 5 does not state that the solvent is added to the pitch before heat treatment.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached *Monday-Thursday from 8:00 AM - 6:30 PM*. My acting supervisors are

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Carol Chaney, who can be reached at (703) 305-3777, and Steve Kalafut, who can be reached at (703) 308-0433. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax number is (703) 305-3599.

November 29, 2000


CAROL CHANEY
PRIMARY EXAMINER